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<b>(21) International Application Number:</b> PCT/NO96/00109 <b>(22) International Filing Date:</b> 7 May 1996 (07.05.96) <b>(30) Priority Data:</b> 951799 8 May 1995 (08.05.95) NO <b>(71)(72) Applicants and Inventors:</b> KONSMO, Øystein [NO/NO]; Eltonveien 35, N-0586 Oslo (NO). STAFF, Finn [NO/NO]; Ryggs vei 5A, N-0390 Oslo (NO). <b>(74) Agent:</b> ONSAGERS PATENTKONTOR A/S; P.O. Box 265 Sentrum, N-0103 Oslo (NO).		<b>(81) Designated States:</b> AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, US, UZ, VN, ARIPO patent (KE, LS, MW, SD, SZ, UG), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG).  <b>Published</b> <i>With international search report.</i> <i>In English translation (filed in Norwegian).</i>
<b>(54) Title:</b> METHOD OF UPDATING OF PRICES AND DISPLAY OF MESSAGES IN A LOCAL UNIT		
<b>(57) Abstract</b>  In a local unit for supplying goods and services the prices of the goods and services are remotely set and updated from a central host computer which controls and monitors a system wherein a number of such local units are included. In connection with the setting and updating of prices, especially in connection with sales promotion, the local unit can, on instructions from the host computer, simultaneously display messages concerning prices and products on a display device in the local unit. These messages are stored in a message library in the local unit.		

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## **Methods of updating of prices and display of messages in a local unit**

The invention concerns a method for remotely setting and updating prices of goods and services in a local unit for sale of goods and services, especially a vending machine, according to the introduction of claim 1, together with a  
5 method for generating and displaying messages in a local unit for sale of goods and services, especially a vending machine, according to the introduction of claim 2.

A decentralized system for supplying goods and services, wherein the system comprises a number of local units, especially vending machines, for supplying  
10 goods and services, is described in international patent claim PCT/NO95/00060 which concerns a method for monitoring such a decentralized system for supplying goods and services and generating messages concerning the state of the system.

The methods which are employed today for setting prices in vending  
15 machines are based on the fact that if the vending machine has an intelligent coin validator or coin changer, the prices in the vending machine unit are set by the use of keys provided on the vending machine or the door thereof or by connecting a hand-held terminal to an input on the vending machine and setting the new prices via the keyboard on the terminal. If the vending  
20 machine is equipped with electronic control devices and has a non-intelligent coin unit connected to the control device, the prices can also be set in the control unit in approximately the same fashion as described above.

A drawback with both of these methods is that the prices can only be altered when a person is physically present at the machine. Consequently such  
25 methods are both expensive and inflexible.

The object of the invention is therefore to provide a method which permits remote setting of the prices and thereby gives maximum flexibility at the lowest possible cost. A second object of the invention is to provide a method  
for generating and displaying messages in a local unit or a vending machine,  
30 especially in a situation where the prices have been altered or reset, thus enabling a customer to obtain immediate information concerning a commodity or service.

The above-mentioned objects are achieved with a method which is characterized by the features which are disclosed by the characterizing part of claim 1 and a method which is characterized by the features which are disclosed by the characterizing part of claim 2 respectively.

- 5 The invention will now be described in more detail with reference to embodiments.

An operator specifies on the host computer the products, i.e. goods and services, which are offered by the vending machine. The price of each product is also specified. Data for product specification and price are downloaded to a  
10 system control unit in the vending machine every time a change is made in the product selection or the prices have to be changed. The data in this system control unit will therefore reflect the data which are stored in a data base in a host computer which monitors the vending machine or the local units.

- 15 In the local unit or in the vending machine the system control unit is connected to an intelligent coin unit and/or an electronic control device via a serial interface or bus interface. In the system control unit there is stored a program which emulates the method for setting the price for each individual product in either the coin unit or in the electronic control unit. When new  
20 prices are transferred to the system control unit via a data communication network which is employed by the system in order to connect the local units to the host computer, the emulator program starts and the prices in the coin unit or the electronic control unit or both are automatically updated. A wireless data network may advantageously be used as the communication  
25 network.

- An additional advantage with this method is that the operator can react quickly to market requirements. An example of this is the case where a vending machine is located at a place where special events are taking place, e.g. a sports arena, the operator may wish to offer one or more products at a  
30 special price while the event is in progress, or during a short period in the course of the event. This can easily be implemented by using the above-mentioned method.

When a price is altered in a local unit or a vending machine, it will be desirable to make the price known to the public. The same will be the case when the product selection has changed or when a completely new product is offered.

- 5 A number of local units will be equipped with a display device which informs the buyer of the sales prices. The display device can work in various ways. The buyer can, e.g., press a selector key in order to obtain information on the sales price for a specific product. In other cases the vending machine has a display device with a finite number of characters, thus enabling the text to be  
10 scrolled over the display unit. In this case the system control unit can be connected to the display device via a serial interface or bus interface in order to transfer information via this interface in a format determined by the display unit. If the local unit or the vending machine does not have a display device which permits scrolling, an external display unit can be mounted on  
15 the local unit and connected to the system control unit in a similar manner.

- The system control unit in the local unit will contain a message library with messages which can be displayed on the display device, the message library being remotely updated from the system's host computer. Each message in the message library is assigned a reference number. When a message or a number  
20 of messages have to be displayed in the local unit, the operator at the host computer will download a data block to the system control unit in the local unit, the data block containing the message's reference number or reference numbers for more messages, as well as starting and stopping times for when the message or messages have to be displayed. The operator can preset the  
25 time for transfer of the data block and also to which local units the data have to be transferred, thus making the physical presence of the operator unnecessary at the host computer to perform this task. Examples of messages which can be mentioned are "New flavour, Coke Light in selection one" and "All products 75 cents until 7 p.m.". In the latter case the operator will  
30 download a data block with new prices when the sales promotion starts and thereafter the data block which contains the message's reference number and the starting and stopping times for the message. At the end of the sales promotion the system control unit will reset the prices to the prices before the sales promotion in the intelligent coin unit and/or in the local unit's control  
35 device which validates the prices.

**PATENT CLAIMS**

1. A method for remotely setting and updating prices of goods and services in a local unit for supply of the goods and services, especially a vending machine, wherein the local unit comprises a system control unit which is connected via an interface with an electronic coin unit and/or an electronic control device in the local unit, wherein the local unit is connected via a communication network with an operator-controlled, central host computer which controls and monitors a number of such local units which form part of a decentralized system for supplying the goods and services, and wherein the host computer stores a data base which contains information on the local units, the goods and services offered together with the prices thereof, the method being characterized by implementing an emulator program in the system control unit for setting and updating prices of goods and services, and transferring data for setting and updating of prices of goods and services from the central host computer to the system control unit, whereupon the emulator program therein sets and/or updates the prices in the electronic coin unit and/or the electronic control device which stores and validates the prices for the individual goods and services which are sold by the local unit.
2. A method for generating and displaying messages in a local unit for supply of goods and services, especially a vending machine, wherein the local unit comprises a system control unit which is connected via an interface with an electronic coin unit and/or electronic control device in the local unit, wherein the local unit is connected via a communication network with an operator-controlled, central host computer which controls and monitors a number of such local units which form part of a decentralized system for supplying the goods and services, wherein the host computer stores a data base which contains information on the local units, the goods and services offered together with the prices thereof, wherein the local unit further comprises or is connected with a display device for display of information on the goods or services, and wherein the prices thereof are set and updated by means of the method according to claim 1, the method being characterized by implementing in the system control unit a message library for storing messages for display on the display device, the messages being generated in the central host computer and downloaded to the message library in the system control unit, transferring instructions concerning which message has to be displayed and when it should be

displayed from the host computer to the system control unit, transferring the selected message from the message library in the system control unit to the display device, the display device being connected to the system control unit via an interface, and controlling the duration of the display of the selected message from the system control unit.

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/NO 96/00109

## A. CLASSIFICATION OF SUBJECT MATTER

IPC6: G07F 5/18

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC6: G07F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

SE,DK,FI,NO classes as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X,P	WO 9527242 A2 (KONSMO, OYSTEIN), 12 October 1995 (12.10.95) --	1-2
Y	US 5091713 A (HORNE ET AL), 25 February 1992 (25.02.92) --	1-2
Y	US 5313569 A (OLSSON ET AL), 17 May 1994 (17.05.94) --	1-2
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**INTERNATIONAL SEARCH REPORT**  
Information on patent family members

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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